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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/935,432	08/20/2001	Miguel A. Capote	031862-038	9508
20529	7590	01/02/2004	EXAMINER	
NATH & ASSOCIATES 1030 15th STREET 6TH FLOOR WASHINGTON, DC 20005			GRAYBILL, DAVID E	
			ART UNIT	PAPER NUMBER
			2827	

DATE MAILED: 01/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/935,432

Applicant(s)

CAPOTE, MIGUEL

Examiner

David E Graybill

Art Unit

2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-22 is/are pending in the application.
- 4a) Of the above claim(s) 9, 12-14 and 17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7, 8, 10, 11, 15, 16 and 18-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Claims 9, 12, 13, 14 and 17 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the paper filed on 10-1-3.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 7, 8, 10, 11 and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 7 there is insufficient antecedent basis for the language "integrated circuit chip."

In claim 11 there is insufficient antecedent basis for the language "the holes in the encapsulant."

In claim 22 there is insufficient antecedent basis for the language "the substrate."

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 7, 10, 15, 18, 19 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Akhavain (5341546).

At column 2, line 66 to column 5, line 7, Akhavain teaches the following:

7. A method for making an electrical component assembly, comprising the steps of laminating a film 12e on an active surface of an integrated circuit 11a; producing holes in the film to expose contact pads 11b on the active surface of the integrated circuit chip, sealing the holes with an electrically conductive material 12f; placing the integrated circuit chip on a substrate 12c with the film located between the integrated circuit chip and the substrate; and reflowing the electrically conductive material in order to attach the integrated circuit chip to the substrate.
10. The method of 7 wherein the sealing step comprises filling the holes with solder paste.
15. A method for making an electrical component assembly, comprising the steps of: laminating a film on a substrate, producing holes in the film to expose contact pads on the substrate; filling the holes with an electrically conductive material; placing an integrated circuit chip on a substrate with the film located between the integrated circuit chip and the substrate; and reflowing the electrically conductive material in order to attach the integrated circuit chip to the substrate.

18. The method of 15 wherein the filling step comprises sealing the holes with solder paste.

19. A method for making an electrical component assembly, comprising the steps of laminating a film on a substrate having discrete solder bumps 12f thereon; placing an integrated circuit chip on a substrate with the film located between the integrated circuit chip and the substrate; and reflowing the solder bumps in order to attach the integrated circuit chip to the substrate.

21. A method for making an electrical component assembly, comprising the steps of: laminating a film on an active surface of an integrated circuit chip having discrete solder bumps thereon; coating a substrate with a portion of an encapsulant 12e; placing the integrated circuit chip on the substrate with the film and encapsulant portion located between the integrated circuit chip and the substrate; curing the encapsulant portion; and reflowing the solder bumps in order to attach the integrated circuit chip to the substrate.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akhavain as applied to claim 7 above, and further in combination with Nelson (5445308).

Akhavain does not appear to explicitly teach wherein the holes in the encapsulant are produced by laser drilling.

Nonetheless, Nelson teaches wherein holes in an encapsulant are produced by laser drilling. In addition, it would have been obvious to combine the process of Nelson with the process of Akhavain because it would provide the holes of Akhavain.

Claims 8, 16 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akhavain as applied to claim 7 above, and further in combination with Pasch (5821624).

Akhavain does not appear to explicitly teach the following:

8. The method of 7 further comprising the step of coating a surface of the film which faces the substrate with a flux adhesive.
16. The method of 15 further comprising the step of coating a surface of the film which faces the integrated circuit chip with a flux adhesive.
20. The method of 18 further comprising the step of: coating a surface of the film which faces the integrated circuit chip with a flux adhesive.

Nevertheless, at column 4, lines 28-39, Pasch teaches coating the surface of a film with faces an integrated circuit chip with a flux adhesive. Furthermore, it would have been obvious to combine the process of Pasch with the process of Akhavain because it would improve bonding.

Claim 22 is rejected under 35 U.S.C. 102(b) as being anticipated by Gutierrez (5371328).

At column 5, line 24 to column 6, line 17, Gutierrez teaches the following:

22. A method for making an electrical component assembly, comprising the steps of: laminating a film 9 on an active surface of an integrated circuit chip 1 having discrete solder bumps 5 thereon; coating the film with a portion of an encapsulant 11; placing the integrated circuit chip on the substrate 3 with the film and encapsulant portion located between the integrated circuit chip

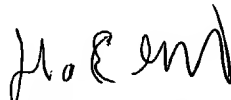
and the substrate; curing the encapsulant portion; and reflowing the solder bumps in order to attach the integrated circuit chip to the substrate.

The art made of record and not applied to the rejection is considered pertinent to applicant's disclosure. It is cited primarily to show inventions similar to the instant invention.

Any telephone inquiry of a general nature or relating to the status (MPEP 203.08) of this application or proceeding should be directed to Group 2800 Customer Service whose telephone number is 703-306-3329.

Any telephone inquiry concerning this communication or earlier communications from the examiner should be directed to David E. Graybill at (703) 308-2947, or after about 02/05/04, (571) 272-1930. Regular office hours: Monday through Friday, 8:30 a.m. to 6:00 p.m.

The fax phone number for group 2800 is (703) 872-9306.



David E. Graybill
Primary Examiner
Art Unit 2827